

ABSTRACT OF THE DISCLOSURE

The invention provides a system for passively controlling pressure oscillations of hydrodynamic origin in a solid propellant thruster comprising a body containing a charge of solid propellant, the system comprising at least one insert disposed in the thruster body transversely relative to the flow direction of the combustion gases of the solid propellant. The insert has an opening of non-axisymmetric shape so as to generate a three-dimensional effect on the flow and prevent axisymmetric turbulent modes from forming in the thruster. Thus, the control system of the invention serves to break the symmetry of the flow and thus prevents axisymmetric turbulence forming which is the source of instability that the present invention seeks to control. The present system is applicable to existing thrusters.